

CLAIMS

What is claimed is:

- 5    1. In a transmitter device of a content distribution system, a method for transmitting content comprising:
  - detecting a plurality of multicast channels for transmission of the content to a receiver device;
  - assigning portions of the content to respective multicast channels of the plurality of multicast channels for distribution to the receiver device; and
  - transmitting the portions of the content to the receiver device using the respective assigned multicast channels.
- 10    2. The method of claim 1 further comprising:
  - assigning a noise element to at least one of the multicast channels; and
  - transmitting the noise element using the assigned multicast channel.
- 15    3. The method of claim 2 further comprising

prior to transmitting the noise element using the assigned multicast channel,

  - transmitting a first synchronization marker to the receiver device using the assigned multicast channel; and
  - after completing transmission of the noise element using the assigned multicast channel, transmitting a second synchronization marker to the receiver device using the assigned multicast channel.
- 20    4. The method of claim 3 wherein, after transmitting a second synchronization marker to the receiver device using the assigned multicast channel, transmitting the portion of the content to the receiver device using the respective assigned multicast channel.
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5. The method of claim 1 further comprising detecting a time duration associated with a first multicast channel of the plurality of multicast channels, wherein the steps of assigning and transmitting comprise transmitting a first portion of the content to the receiver device during the time duration using a first multicast channel, and further comprising:
  - detecting expiration of the time duration associated with the first multicast channel;
  - switching to a second multicast channel in response to detecting expiration of the time duration; and
  - transmitting a second portion of the content to the receiver device using the respective second multicast channel.
6. The method of claim 1 further comprising:
  - 15 prior to transmitting the portions of the content to the receiver device using the respective assigned multicast channels, transmitting a first authorization value to the receiver device using the respective assigned multicast channels to indicate a start of transmission from and an identity of the transmitter device; and
  - after completing transmission of the portions of the content to the receiver device using the respective assigned multicast channels, transmitting a second authorization value to the receiver device using the respective assigned multicast channels to indicate an end to the transmission from and the identity of the transmitter device.
- 25 7. The method of claim 1 wherein:
  - the step of assigning comprises, based upon a content spreading characteristic, assigning portions of the content to the respective multicast channels of the plurality of multicast channels for distribution to the receiver device, the content spreading

characteristic indicating a division of the content into the respective portions of the content; and

the step of transmitting comprises substantially simultaneously transmitting the portions of the content to the receiver device using the respective assigned multicast channels.

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8. The method of claim 1 wherein the step of detecting comprises detecting a plurality of multicast channels, each of the plurality of multicast channels formed along a distinct communication path within the content distribution system.

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9. A computerized device associated with a content distribution system comprising:

at least one communications interface;

a controller; and

an interconnection mechanism coupling the at least one communications

15 interface and the controller;

wherein controller is configured to:

detect a plurality of multicast channels for transmission of the content to a receiver device;

20 assign portions of the content to respective multicast channels of the plurality of multicast channels for distribution to the receiver device; and

transmit the portions of the content to the receiver device using the respective assigned multicast channels.

10. The computerized device of claim 9 wherein the controller is further configured to:

25 assign a noise element to at least one of the multicast channels; and  
transmit the noise element using the assigned multicast channel.

11. The computerized device of claim 10 wherein the controller is further configured

to:

prior to transmitting the noise element using the assigned multicast channel, transmit a first synchronization marker to the receiver device using the assigned multicast channel; and

5 after completing transmission of the noise element using the assigned multicast channel, transmit a second synchronization marker to the receiver device using the assigned multicast channel.

12. The computerized device of claim 11 wherein the controller is further configured  
10 to, after transmitting a second synchronization marker to the receiver device using the assigned multicast channel, transmit the portion of the content to the receiver device using the respective assigned multicast channel.

13. The computerized device of claim 9 wherein the controller is further configured to  
15 detect a time duration associated with a first multicast channel of the plurality of multicast channels, wherein, when assigning, the controller is configured to allocate a first portion of the content for transmission to the receiver device using the first multicast channel based upon the time duration wherein, when transmitting, the controller is configured to transmit the first portion of the content to the receiver device  
20 during the time duration using the respective allocated first multicast channel, and wherein the controller is further configured to:

detect expiration of the time duration associated with the first multicast channel;  
switch to a second multicast channel in response to detecting expiration of the time duration; and

25 transmit a second portion of the content to the receiver device using the respective assigned second multicast channel.

14. The computerized device of claim 9 wherein the controller is further configured to:

- prior to transmitting the portions of the content to the receiver device using the respective assigned multicast channels, transmit a first authorization value to the receiver device using the respective assigned multicast channels to indicate a start of transmission from and an identity of the transmitter device; and
- 5        after completing transmission of the portions of the content to the receiver device using the respective assigned multicast channels, transmit a second authorization value to the receiver device using the respective assigned multicast channels to indicate an end to the transmission from and the identity of the transmitter device.
- 10      15. The computerized device of claim 9 wherein the controller is further configured to:  
                when assigning, based upon a content spreading characteristic, assign portions of the content to the respective multicast channels of the plurality of multicast channels for distribution to the receiver device, the content spreading characteristic indicating a division of the content into the respective portions of the content; and
- 15      when transmitting, substantially simultaneously transmit the portions of the content to the receiver device using the respective assigned multicast channels.
16. The computerized device of claim 9 wherein the controller, when detecting, is configured to detect a plurality of multicast channels, each of the plurality of multicast channels formed along a distinct communication path within the content distribution system.
- 20      17. A computer program product having a computer-readable medium including computer program logic encoded thereon that, when performed on a controller in a computerized device having a coupling to at least one communications interface provides a method for performing the operations of:
- 25            detecting a plurality of multicast channels for transmission of the content to a receiver device;

assigning portions of the content to respective multicast channels of the plurality of multicast channels for distribution to the receiver device; and  
transmitting the portions of the content to the receiver device using the respective assigned multicast channels.

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18. A computerized device comprising:

at least one communications interface;

a controller; and

an interconnection mechanism coupling the at least one communications

10 interface and the controller;

wherein the computerized device is configured to produce a means for multicasting content, such means including:

means for detecting a plurality of multicast channels for transmission of the content to a receiver device;

15 means for assigning portions of the content to respective multicast channels of the plurality of multicast channels for distribution to the receiver device; and

means for transmitting the portions of the content to the receiver device using the respective assigned multicast channels.

20 19. In a receiver device of a content distribution system, a method for receiving multicast content comprising:

detecting a plurality of multicast channels for reception of the content from a transmitter device;

25 assigning multicast channels of the plurality of multicast channels for reception of portions of the content from the transmitter device; and

receiving the portions of the content using the respective assigned multicast channels.

20. The method of claim 19 further comprising

receiving a first synchronization marker from the transmitter device using the assigned multicast channel to indicate a start of transmission of a noise element;

discarding the noise element received from the transmitter device using the  
5 assigned multicast channel; and

receiving a second synchronization marker from the transmitter device using the assigned multicast channel to indicate an end of transmission of the noise element.

21. The method of claim 19 further comprising detecting a time duration associated  
10 with a first multicast channel of the plurality of multicast channels, wherein the step of receiving comprises receiving a first portion of the content during the time duration using the first multicast channel, and further comprising:

detecting expiration of the time duration associated with the first multicast channel;

15 switching to a second multicast channel in response to detecting expiration of the time duration; and

receiving a second portion of the content from the transmitter device using the second multicast channel.

20 22. The method of claim 19 further comprising:

receiving a first authorization value from the transmitter device using the respective assigned multicast channels to indicate a start of reception of the portions of the content from the transmitter device and an identity of the transmitter device; and

25 receiving, after completion of transmission of the portions of the content from the transmitter device, a second authorization value from the transmitter device using the respective assigned multicast channels to indicate an end to the reception of the content from the transmitter device.

23. The method of claim 19 wherein:

the step of receiving comprises, based upon a content spreading characteristic, substantially simultaneously receiving the portions of the content to the receiver device using the respective assigned multicast channels, the content spreading characteristic

5 indicating a division of the content into the respective portions of the content; and

assembling the portions of the content into content based upon the content spreading characteristic.

24. The method of claim 19 wherein the step of detecting comprises detecting a

10 plurality of multicast channels, each of the plurality of multicast channels formed along a distinct communication path within the content distribution system.

25. A computerized device associated with a content distribution system comprising:

at least one communications interface;

15 a controller; and

an interconnection mechanism coupling the at least one communications interface and the controller;

wherein controller is configured to:

detect a plurality of multicast channels for reception of the content from a 20 transmitter device;

assign multicast channels of the plurality of multicast channels for reception of portions of the content from the transmitter device; and

receive the portions of the content using the respective assigned multicast channels.

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26. The computerized device of claim 25 wherein the controller is further configured to:

receive a first synchronization marker from the transmitter device using the

- assigned multicast channel to indicate a start of transmission of a noise element;
- discard the noise element received from the transmitter device using the assigned multicast channel; and
- receive a second synchronization marker from the transmitter device using the
- 5 assigned multicast channel to indicate an end of transmission of the noise element.
27. The computerized device of claim 26 wherein the controller is configured to detect a time duration associated with a first multicast channel of the plurality of multicast channels, and, when receiving, receive a first portion of the content during the time
- 10 duration using the first multicast channel, the controller further configured to:
- detect expiration of the time duration associated with the first multicast channel;
- switch to a second multicast channel in response to detecting expiration of the time duration; and
- receive a second portion of the content from the transmitter device using the
- 15 second multicast channel.
28. The computerized device of claim 25 wherein the controller is further configured to:
- receive a first authorization value from the transmitter device using the respective assigned multicast channels to indicate a start of reception of the portions of
- 20 the content from the transmitter device and an identity of the transmitter device; and
- receive, after completion of transmission of the portions of the content from the transmitter device, a second authorization value from the transmitter device using the respective assigned multicast channels to indicate an end to the reception of the content from the transmitter device.
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29. The computerized device of claim 25 wherein the controller is further configured to:
- when receiving, based upon a content spreading characteristic, substantially simultaneously receive the portions of the content using the respective assigned

multicast channels, the content spreading characteristic indicating a division of the content into the respective portions of the content; and

assemble the portions of the content into content based upon the content spreading characteristic.

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30. The computerized device of claim 25 wherein the controller is further configured to, when detecting, detect a plurality of multicast channels, each of the plurality of multicast channels formed along a distinct communication path within the content distribution system.

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31. A computer program product having a computer-readable medium including computer program logic encoded thereon that, when performed on a controller in a computerized device having a coupling to at least one communications interface provides a method for performing the operations of:

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detect a plurality of multicast channels for reception of the content from a transmitter device;  
assign multicast channels of the plurality of multicast channels for reception of portions of the content from the transmitter device; and  
receive the portions of the content using the respective assigned multicast

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channels.

32. A computerized device comprising:

at least one communications interface;  
a controller; and

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an interconnection mechanism coupling the at least one communications interface and the controller;

wherein the computerized device is configured to produce a means for receiving multicast content, such means including:

means for detecting a plurality of multicast channels for reception of the content from a transmitter device;

means for assigning multicast channels of the plurality of multicast channels for reception of portions of the content from the transmitter device; and

- 5        means for receiving the portions of the content using the respective assigned multicast channels.